

### **REMARKS**

In view of the above amendments and the following remarks, reconsideration of the rejections contained in the Office Action of May 20, 2004 is respectfully requested.

In the outstanding Office Action, the Examiner withdrew the previous rejections, but set forth new prior art rejections of the pending claims. In particular, the Examiner rejected claims 10, 13-16, and 18-24 as being unpatentable over the Fuller reference (USP 1,071,042) in view of the Hale reference (USP 3,862,444). However, as indicated above, independent claims 10 and 22 have now been amended, and the Examiner's rejections are respectfully traversed. Thus, for the reasons discussed below, it is respectfully submitted that claims 10, 14-16, and 18-24 are clearly patentable over the prior art of record.

This application presently includes independent claims 10, 15, and 22. In this regard, independent claim 10 has now been amended to incorporate the subject matter of dependent claim 13, and independent claim 22 has been amended in a similar manner. Because the Examiner has had a full opportunity to search for and consider the subject matter incorporated into independent claims 10 and 22, it is submitted that these amendments do not raise any new issues requiring further search and consideration. Accordingly, the Examiner is respectfully requested to enter and consider the amendments to claims 10 and 22 at this time.

Independent claims 10 and 15 are each directed to a device that includes a plurality of motors, and each of the motors includes a stator having a stator winding and a rotor rotatably supported on the stator. The stator winding on each of the motors has a different number of poles than the stator winding of each of the other motors (i.e., the motors have different numbers of poles). A plurality of rotating members are arranged adjacent to each other in an axial direction along a common axis of rotation so as to share the common axis of rotation, and each of the rotating members is attached to a corresponding rotor of one of the motors and is operable to rotate *independently* of the other rotating members. Independent claim 22 is directed to a method of evacuating a vessel using motors and rotating members arranged as explained above with respect to claims 10 and 15.

As indicated on page 4, lines 8-11 of the original specification, allowing the rotating members to rotate *independently* of one another provides a compact arrangement which will require less space. Furthermore, as explained on page 5, lines 4-18 of the original specification, because the

stator windings of the motors have different numbers of poles, the motors can be rotated at different speeds even though they may be connected to a common power source supplying a common frequency to each motor. Thus, because each independently rotatable rotating member is attached to a corresponding rotor of one of the motors, and because the motors have different numbers of poles, all regions of a vessel - including ultra-high vacuum regions and atmospheric pressure regions - can be adequately evacuated without the need for a pre-evacuating pump.

The Fuller reference is directed to a multistage parallel flow pump including rotors 29, 38, and 21 and corresponding propeller blades 15, 9, 5, respectively. The Fuller reference explains that the “pumping elements are independent from each other and are intended to be rotated at different speeds” (see page 1, lines 91-94). In other words, as the Examiner noted in the Office Action, the Fuller reference discloses rotating members that rotate *independently*. The Examiner acknowledged, however, that the Fuller reference does not teach motors for the pumping elements that have stators with different numbers of poles.

Nonetheless, the Examiner explained that the Hale reference “discloses the use of a plurality of stators having different number of poles in order to vary the revolution between motors connected in parallel to slip-ring assembly 66,” wherein the motors are driven by the same voltage and the same rate frequency. Thus, the Examiner asserted that one of ordinary skill in the art would be motivated by the Hale reference to modify the Fuller reference in order to obtain the present invention. However, as explained below, the Applicants respectfully disagree with the Examiner’s position.

The Hale reference discloses several rotating members that rotate *in series*. In particular, the rotor 58 of the first motor 55 is attached to the tubular shaft 52 so as to rotate the tubular shaft 52. The rotor 64 of the second motor 60 is attached to the main shaft 47 (located inside the tubular shaft 52) so that the rotor 64 rotates the main shaft 47. Because the stator 61 of the second motor 60 is also mounted on the tubular shaft 52, the stator 61 will rotate the rotor 64 of the second motor relative to the rotation of the tubular shaft 52 (see column 4, lines 13-35 of the Hale reference). Therefore, the rotational speed of the main shaft 47 (rotated by the rotor 64) will be equal to the combined speed of the motor 55 and the second motor 60. In other words, the rotational speed of the rotor 64 and the main shaft (rotating member) 47 is *completely dependent* on the rotational speed of the rotor 58 and the tubular shaft (rotating member) 52 (see column 4, line 66 through column 5,

line 4 of the Hale reference). In contrast, as noted above, the Fuller reference is directed to a pump in which the rotating members rotate *independently*.

As explained above, the Fuller reference and the Hale reference operate in significantly different manners. Specifically, although the Fuller reference teaches that the rotating members should be arranged so as to rotate *independently*, the Hale references actually *teaches away* from arranging rotating members so that they rotate independently. It is submitted that one of ordinary skill in the art would not be motivated to combine the teachings of the Hale reference (which teaches arranging rotating members *in series* so that they are *dependent*) and the teachings of the Fuller reference (which teaches arranging rotating members *independently*) in order to achieve the present invention. Thus, it is submitted that one of ordinary skill in the art would not be motivated by the Hale reference to modify the Fuller reference so as to obtain the invention recited in independent claims 10, 15, and 22. Accordingly, it is respectfully submitted that those independent claims and the claims that depend therefrom are clearly patentable over the prior art of record.

In view of the above amendments and remarks, it is submitted that the present application is now in condition for allowance. However, if the Examiner should have any comments or suggestions to help speed the prosecution of this application, the Examiner is requested to contact the Applicant's undersigned representative.

Respectfully submitted,

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